

Aircraft Sound Monitoring Study

Naval Air Station Whidbey Island, Federal Agencies Meeting Notes

DATE: 08 June 2020
TIME: 1000 PDT
LOCATION: WebEx Teleconference

INVITED (*Confirmed Attendee):

Navy Team/Contractor

(b) (6)

CAPT Matt Army*

(b) (6)

(b) (6)

National Park Service Team

(b) (6)

United States Forest Service Team

(b) (6)

Bureau of Land Management Team

(b) (6)

Administration

- (b) (6) (*Leidos/WebEx Host*) covered WebEx meeting logistics/guidelines for the call.

Welcome and Opening Remarks

- (b) (6) (*ASN Office*) went through the meeting agenda, reviewed the FY20 NDAA Section 325 requirement, and summarized the study objectives and goals.

Technical Presentation

- (b) (6) (*Blue Ridge Research and Consulting, LLC [BRRC]*) provided technical details of the study, including the following:
 - The technical approach for monitoring around airfields, which includes temporal sampling and spatial distribution of sound level meters (SLMs) following American National Standards Institute (ANSI) guidance.
 - The monitoring approach in the Olympic National Park (ONP), which uses a different approach due to the sporadic nature of flight operations; planned monitoring will include a 365-day sampling period at one location.
 - SLM site selection parameters from an acoustical basis, an overview of the day-night average sound level (DNL) map of NAS Whidbey Island, flight operations basis for distribution of SLM locations, and a flight track map.
 - Other logistical considerations for SLM locations.
- (b) (6) (*OPNAV N453 Branch Head*) discussed how to provide input and next actions.
- See attached *PowerPoint* presentation for more details about the technical presentation.

Questions/Discussions (facilitated by (b) (6))

- How do you plan to compare this to previous work done at OLYM?
 - *We plan to install one semi-permanent monitor in ONP, the location is yet to be determined. The monitor will collect acoustic data for a 365-day continuous period. This acoustic data will be used to evaluate aircraft noise modeling with the collection of military operations within the airspace as well. The Navy has no plans to compare this data to previous sound work done in the park; however the acoustic data could be used to compare with previous work, and we can provide the raw data for additional analysis, if interested.*
- Is there an overall objective stated somewhere for doing this? I didn't really see one in the Def. Auth bill.
 - *In addition to the airfields, the NDAA requires additional monitoring along and in vicinity of flight paths used to access training areas on the Olympic Peninsula.*
- I am wondering about the difference between the DNL contours p12 and the Olympic Park map. One is projected flight tracks and the other actual?
 - *Yes, the Olympic Park map is actual radar data from the FAA for flight activity over the ONP.*
- Where did that flight data come from and can we get a copy of that? Are you confident it captures all the flights we are interested in? (over the park in any event)
 - *The flight data came from FAA. This was the same data used in the 2016 Rep. Kilmer brief. The data from the brief is only representative of one busy week (Monday – Friday). The FAA has completed a more recent study for an entire year. We will check with the FAA on sharing the data.*
- Does anyone know what the rationale was for not collecting weekends at first?
 - *We can't recall the exact reason.*
- NPS would definitely like to have access to the year-long study. Yes, the ONF would like to have the year long study also.
 - *We will coordinate with FAA on sharing the data.*
- Does this graphic reflect the actual distance from the ground - as in flights over mountains?
 - *The flight data is altitude above sea level. It does not calculate the above ground distance.*
- Does that include flights during periods where there is preparation for deployments?
 - *CAPT Matt Army discussed deployment operations.*
- Seems like you should only monitor data when you're flying. No data should be added in when jets aren't flying, as the average would bring the numbers down rather than reflect the actuals.
 - *We are coordinating with NASWI personnel to plan the monitoring periods when OLF Coupeville will be active.*
- I have a quick question on that re DNL, would it be valuable to monitor one of the sites in the less than 50 dba to verify model? We would like to have actual data to help us with EW permit reissuance.
 - *While the majority of monitor sites are preferred in the 60-75dB DNL contours, some could be located in areas below or above this DNL range.*
- Where are the locations? Will we have input?
 - *The locations have not been finalized. Yes, we would like your input.*
- You need one over here in the San Juan Islands - Lopez, as you can see on this map, gets a great deal of action.
 - *We have heard similar input regarding a monitor on Lopez Island. We will consider it.*

- Could you expand on Coordinated Observer Periods?
 - *Efforts will be made to schedule observations when the Olympic MOA will be active with military flight operations.*
- What are next steps?
 - *Looked again at the Way Ahead/Next Steps slide.*

Wrap-Up

- (b) (6) reminded everyone how to provide additional input and that the deadline for input is 19 June 2020.

Aircraft Sound Monitoring Study: Approach and Way Ahead

Department of the Navy



SOUND MONITORING
June 10, 2020



Meeting Agenda

- Welcome and Opening Remarks
- Project Overview
 - National Defense Authorization Act (NDAA) Language
 - Monitoring Study Overview
 - Monitoring Study Goals
- Monitoring Approach
 - Technical Requirements
 - Sound Level Meter Site Selection & Maps
- Next Steps / Way Ahead
- Discussion & Questions



NDAA Language

Sec. 325. Real-Time Sound-Monitoring at Navy Installations where Tactical Fighter Aircraft Operate

(a) MONITORING—The Secretary of the Navy shall conduct real-time sound-monitoring at no fewer than two Navy installations and their associated outlying landing fields on the west coast of the United States where Navy combat coded F/A–18, E/A–18G, or F–35 aircraft are based and operate and noise contours have been developed through noise modeling. Sound monitoring under such study shall be conducted—

- (1) during times of high, medium, and low activity over the course of a 12-month period; and
- (2) along and in the vicinity of flight paths used to approach and depart the selected installations and their outlying landing fields.

(b) PLAN FOR ADDITIONAL MONITORING—Not later than 90 days after the date of the enactment of this Act, the Secretary of the Navy shall submit to the congressional defense committees a plan for real-time sound monitoring described in subsection (a) in the vicinity of training areas predominantly overflown by tactical fighter aircraft from the selected installations and outlying landing fields, including training areas that consist of real property administered by the Federal Government (including Department of Defense, Department of Interior, and Department of Agriculture), State and Local governments, and privately owned land with the permission of the owner.



NDAA Language

Sec. 325. Real-Time Sound-Monitoring at Navy Installations where Tactical Fighter Aircraft Operate (Continued)

(c) REPORT REQUIRED—Not later than December 1, 2020, the Secretary of the Navy shall submit to the congressional defense committees a report on the monitoring required under subsection (a). Such report shall include—

- (1) the results of such monitoring;
- (2) a comparison of such monitoring and the noise contours previously developed with the analysis and modeling methods previously used;
- (3) an overview of any changes to the analysis and modeling process that have been made or are being considered as a result of the findings of such monitoring; and
- (4) any other matters that the Secretary determines appropriate.

(d) PUBLIC AVAILABILITY OF MONITORING RESULTS—The Secretary shall make the results of the monitoring required under subsection (a) publicly available on a website of the Department of Defense.

The Aircraft Sound Monitoring Plan was provided to Congress on schedule; monitoring actions and report schedules are likely to be delayed by coronavirus travel restrictions



Monitoring Study Overview

- Two Navy Installations on the West Coast
 - Naval Air Station (NAS) Whidbey Island (Washington)
 - NAS Lemoore (California)
- Real-Time Sound Monitoring
 - Over the course of a 12-month period
 - Capture times with high, medium, and low aircraft activity
 - Measure sound in the vicinity of aircraft flight paths, outlying landing fields (OLFs), and training areas





Monitoring Study Goals

- Study Goals
 - Document monitored sound levels
 - Compare monitored sound levels with noise models
 - Recommend improvements to noise modeling process and tools (if applicable)
 - Share results with the public



Monitoring Approach: Airfields

- *Regular Operational Tempos around Airfields Require:*
 - Temporal sampling
 - Four (4) seven-day (continuous) sampling periods
 - One sampling period for each season at each location
 - One optional sampling period (5th), if required
 - Spatially distributed locations
 - Up to 12 sites per installation
 - Utilize existing modeled scenarios for site selection
- Following guidance outlined in American National Standards Institute (ANSI) S12.9 Part 2: *"Quantities and Procedures for Description and Measurement of Environmental Sound. Part 2: Measurement of Long-term, Wide Area Sound"*



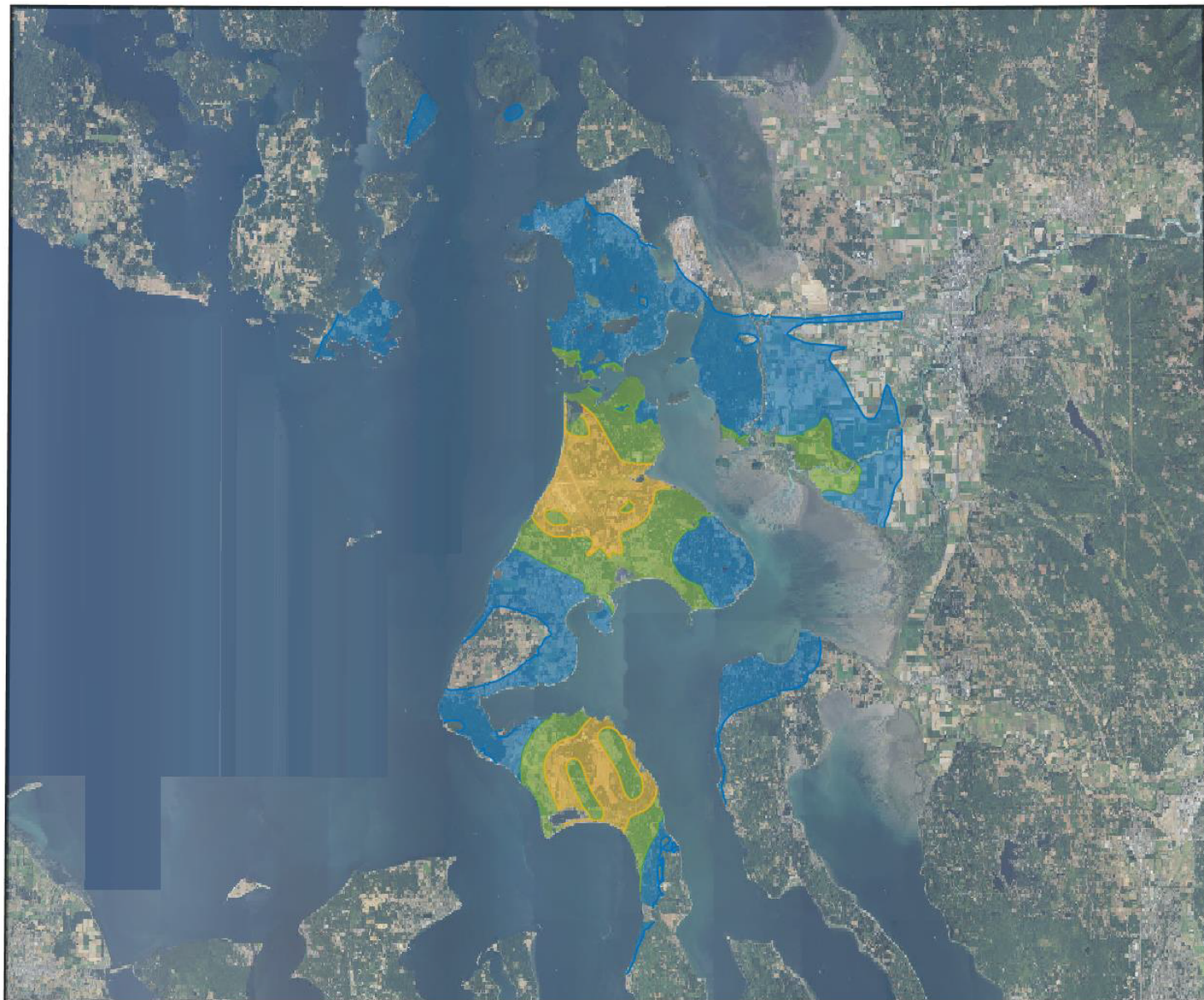
Monitoring Approach: Olympic National Park (ONP)

- *Sporadic Operational Tempos in ONP require:*
 - Temporal sampling
 - 365-day (continuous) sampling period
 - Coordinated observer periods
 - One location located in suitable area with most aircraft overflight at lower altitudes
- As with Airfield Measurements, following guidance outlined in ANSI S12.9 Part 2 to measure aircraft sound



Monitoring Locations – Site Selection Parameters

- Sound Level Meter Selection Criteria
 - Locations based on prior noise modeling
 - Sound Level Meter placement should capture a distribution of modeled DNL sound levels from aircraft operations:
 - 50 to 60 dBA DNL
 - 60 to 75 dBA DNL
 - >75 dBA DNL
 - The preferred location for most SLMs is within modeled 60 to 75 dBA DNL areas



DNL Contours

- 50-60 dBA
- 60-75 dBA
- > 75 dBA

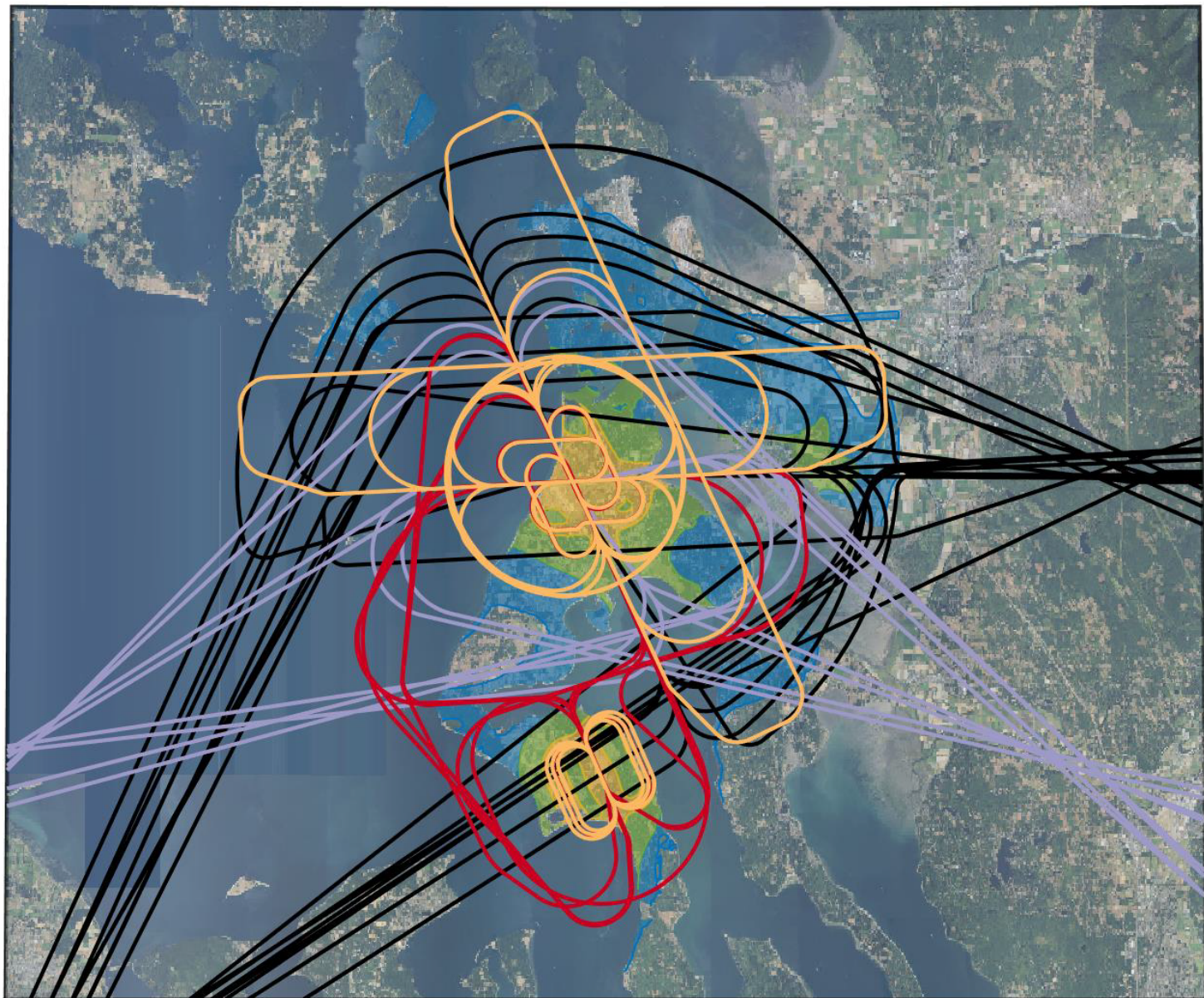
Map Source: USGS
The National Map
Orthoimagery

Blue Ridge Research
& Consulting, LLC 2020



Monitoring Locations – Site Selection Parameters

- Flight Operations Basis
 - Spatially distributed locations of Sound Level Meters (SLM) to capture a range of typical flight types and maneuvers
 - Arrivals
 - Departures
 - Patterns
 - Inter-facility (to and from OLF Coupeville)
 - In the vicinity of primary flight path to offshore training areas
 - As close as possible to modeled flight track or overflight area



DNL Contours

- 50-60 dBA
- 60-75 dBA
- > 75 dBA

Map Features

- Arrival
- Departure
- Inter-Facility
- Pattern

Map Source: USGS
The National Map
Orthoimagery

Blue Ridge Research
& Consulting, LLC 2020



Monitoring Locations – Logistical Considerations

- Dominant sound source should be aircraft sound
- Reduce interference from other sound sources
 - Minimize background sounds / away from road traffic
 - Away from reflecting surfaces
 - Safe location to leave meters unattended
 - Accessibility





Input

If interested in providing input on SLM locations

- Send suggested SLM locations to sound.monitoring@navy.mil
- Input can be dots on a map, address with notes, or GPS coordinates
- Focus on locations within the preferred noise contour bands
- Locate under different kinds of flight operations
- Consider suitable locations that are accessible and secure
- Input is optional



Way Ahead / Next Steps

- Sound expert uses stratification matrix to assess proposed Sound Level Meter locations
- Sound expert conduct logistics visit in July/August 2020 to select Sound Level Meter locations
- Initiate sound monitoring in Fall 2020
- Submit interim report to Congress in December 2020
- Continue sound monitoring in Winter, Spring, and Summer 2021*

*Schedules may shift based upon COVID-19 travel restrictions



Discussion / Questions